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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,386	02/25/2002	Noriyuki Fukui	0925-0191P	2326

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EXAMINER

DILDINE JR, R STEPHEN

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/031,386	Applicant(s) FUKUI ET AL.	
	Examiner R. Stephen Dildine	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-10 is/are allowed.
- 6) ☒ Claim(s) 4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/25/2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

Drawings

Figure 18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Step S2 of Fig 2 is labeled as a step to detect whether the currently received frame is the fourth or subsequent frame, which appears to contradict page 16 of the specification which states "In such case, it is first judged whether a frame error has been detected three times or more in the past (S2)".

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: HYBRID SR/GBN MODE REQUEST REPEAT COMMUNICATION SYSTEM.

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms that are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: "Judging that frames have disappeared in the case where discontinuity occurs in transmission numbers having been checked, re-transmission is demanded", page 3, "where the B station detects consecutive frame errors and although the number y of consecution is great", page 6, "Conversely, in the case where the fresh frame were temporarily made preferential, a time, at which frames reach, would be late, being re-transmitted in a direction toward the B station from the re-transmission demand so that a time, for which frames the A station are delayed, would be prolonged", page 6, "with a specified value set small, GBN is frequently actuated to lower the throughput exceedingly", page 7, "are existent in abundance", page 31, "in the event of an amount of data transmission being much", page 31.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 recites "which are generated in the past without consecution" which fails to have a clear meaning to one of ordinary skill in the art at the time of applicant's invention.

Allowable Subject Matter

Claims 1-3 and 5-10 are allowed. The following is a statement of reasons for the indication of allowable subject matter: Shirota et al. (6,181,953) states at column 11, lines 19-41 "In the WORM-ARQ, a selective repeat method (SR) and a go-back-N method (GBN) are switched with each other according to transmission quality in the radio path", Sabaa et al. (6,389,016) states at column 2, lines 11-21 "U.S. Pat. No. 5,210,751 issued on May 11, 1993 to Onoe et al discloses a signal transmission system which is designed for a mobile communication system ... it uses well known retransmission mechanisms, such as a Go-Back-N error recovery system, a selective repeat system or a combination thereof", Takeuchi et al. (5,907,563) states at column 1, lines 31-39, "In the PDC (Personal Digital Cellular) system, which is one of the Japanese digital mobile phone systems, the data communication of 2400 bit/s adopts the FEC strategy using BCH (Bose Chaudhuri Hocquenghem) code and the data communication of 9600 bit/s adopts the ARQ strategy with a combination of Go-Back-N and Selective Repeat protocols. In other mobile communication systems, the FEC strategy, the ARQ strategy or the FEC/ARQ hybrid strategy may be adopted for data communication", Matsuki et al. (5,715,257) states at column 2, lines 36-40 "One solution for the above problem is the combination of an SR ARQ system and a GBN (Go-back-N) ARQ system which has less transmission efficiency than an SR ARQ system but has no problem of differentiation of modulo turns", Maeda et al. (JP 2000-332819) teaches the WORM-ARQ system where SR is normally used and GBN is used under an inferior environment.

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The Patent Abstracts of Japan English abstract of Nakamura et al. (JP 62-210,746 A cited by applicant in the IDS of 18 January, 2002) states, in the paragraph labeled CONSTITUTION:, "a system is regulated by a Selective Repeat ARQ possible to perform plural number of resending requests. And when the number of continuous erroneous frames exceed the regulated value, all of the frames after the frame in which the error is generated, are resent by logic link unit sharing a data link. The system is switched to a Go-Back-N ARQ system, then a resending is performed", the article by Hayashida et al. discloses a system (Rev-GBN-SR) where multiple copies of a requested packet are retransmitted, the article by Yoshimoto et al. shows a performance analysis for both the GBN and SR ARQ schemes, the article by Kallei discusses hybrid ARQ protocols, the article by Ito et al. shows that the WORM-ARQ has a fixed threshold for switching between SR and GBN mode, the article by Lee et al. states that, in the WORM-ARQ system, GBN mode is chosen in sever error rate conditions and SR mode is selected under normal conditions. None of these references teach or suggest to one of ordinary skill in the art at the time of applicants' invention a "threshold setting means for setting the threshold on the basis of a status of transmission associated with the first station and the second station" (applicants' claim 1), or a "threshold setting means for setting the threshold on the basis of a status of transmission associated with the first station and the second station"(applicants' claim 5), or a "threshold setting means for setting a threshold on the basis of the judgment" (applicants' claim 10).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Stephen Dildine whose telephone number is 703-305-5524. The examiner can normally be reached on M, Tu, Th, F 5:55 am to 4:25 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


R. Stephen Dildine

R. Stephen Dildine
Primary Examiner
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